

What is claimed is:

1. A touch sensitive electroluminescent (EL) switch comprising:

a rear electrode layer;

5 a dielectric layer adjacent to said rear electrode layer;

a phosphor layer adjacent to said dielectric layer; and

a transparent electrode layer including a pad adjacent to said phosphor layer, and a substantially concentric conductive trace adjacent to said phosphor layer spaced from said pad in said transparent electrode layer;

10 wherein said phosphor layer disposed between said rear electrode layer and said pad define an illuminated region when energized by a first voltage, wherein said substantially conductive trace and said pad cooperate to define a detection region substantially coinciding with said illuminated region when energized by a second voltage.

15 2. The EL touch switch of claim 1 wherein said first and second voltages are in phase alternating current signals.

3. The EL touch switch of claim 2 wherein said first voltage is 100-300  
20 volts.

4. The EL touch switch of claim 2 wherein said second voltage is 0-5 volts.

5. The EL touch switch of claim 1 wherein said substantially conductive  
25 trace and said pad generate electrical fields coinciding within said detection region.

6. The EL touch switch of claim 5 wherein potential variations occur in response to an object selectably disposed within said detection region.

7. The EL touch switch of claim 6 wherein a differential capacitive circuit differentiates said potential variations of said electric fields of said pad and said substantially conductive trace.

5 8. The EL touch switch of claim 1 wherein said illumination region further comprises a graphic.

9. A control panel including at least one touch sensitive electroluminescent (EL) switch formed in a vehicle for actuating a vehicle accessory,  
10 the control panel comprising:

a plastic substrate forming a portion of an interior trim panel of said vehicle, said plastic substrate including a first side surface exposed to an interior passenger compartment of said vehicle;

a rear electrode layer formed in said plastic substrate;

15 a dielectric layer adjacent to said rear electrode layer;

a phosphor layer adjacent to said dielectric layer; and

a transparent electrode layer including a pad adjacent to said phosphor layer, and a substantially concentric conductive trace adjacent to said phosphor layer spaced from said pad in said transparent electrode layer;

20 wherein said phosphor layer disposed between said rear electrode layer and said pad define an illuminated region when energized by a first voltage, wherein said substantially conductive trace and said pad cooperate to define a detection region substantially coinciding with said illuminated region when energized by a second voltage, and wherein said vehicle accessory is actuated in response to a potential  
25 variation in said detection region.

10. A method for illuminating a touch sensitive electroluminescent (EL) switch within a vehicle, the method comprising the steps of:

providing a rear electrode layer;

30 providing a dielectric layer adjacent to said rear electrode layer;

providing a phosphor layer adjacent to said dielectric layer;

providing a transparent electrode layer including a pad adjacent to said phosphor layer, and a substantially concentric conductive trace adjacent to said phosphor layer spaced from said pad in said transparent electrode layer;

5 energizing an illumination region defined by said phosphor layer disposed between said rear electrode layer and said pad, said illumination region energized by a first voltage; and

energizing a detection region formed about said substantially conductive trace and said pad, said detection region energized by a second voltage.

10 11. The method of claim 10 further comprising the step of detecting a potential variation of said detection region.

12. The method of claim 11 further comprising the step of providing an  
15 enabling signal for illuminating said illumination region in response to said potential variation of said detection region.

13. The method of claim 12 further comprising the step of electrically  
20 connecting said rear electrode to a ground circuit of a high voltage signal generator in response to said enabling signal.

14. The method of claim 12 further comprising the step of providing said  
first voltage to said pad and said rear electrode layer in response to said enabling  
signal.

25 15. The method of claim 10 wherein said EL touch switch is formed in a control panel within said vehicle.

16. The method of claim 10 wherein said EL touch switch is formed in a bezel within said vehicle.

17. The method of claim 10 wherein said EL touch switch is formed in an  
5 interior trim panel within said vehicle.